

## **REMARKS**

Applicant reaffirms election of claims 1-7 as indicated in the paper filed March 24, 2005 as an election without traverse. Applicant expressly reserves the right to file application(s) to non-elected claims 8-13 at any time during the pendency of the subject application or as the Law permits.

Claim 1 has been amended to reflect the advantage of the teaching of the subject application wherein an advancement to the art is accomplished by disclosing and claiming several variables which affect the size of the desired silica particle agglomerate.

The specification clearly recites the features which provide this advancement with a means for achieving the desired result with predictability and accuracy in accordance with the desired use of the product produced by the method.

Control of factors such as primary particle size of the colloidal silica, the concentration of the silica contained in the dispersion, the concentration of the agglomerating agent as well as the method of pH adjustment.

Clear basis for introducing those features into claim 1 are found at page 3, lines 10-12 as well as throughout the balance of the specification including the Examples. In fact, the Examples demonstrate size achieving desired particle size variance in accordance with the various end use applications of the product produced by the method.

In the outstanding Official Action mailed June 13, 2005, Lawler, U.S. Patent no. 2,909,451 is cited as anticipating claims 1-7 in view of Examples 1, 3, 4 and 5 as well as specific portions of the specification of Lawler.

No where in this references is there disclosed or even contemplated the control of agglomerate particle size by controlling of the various factors as now set forth and recited in

claim 1. In fact, Lawler teaches the use of a colloidal mill or other similar device to achieve the desired working size of 1 micron.

The use or addition of colloidal silica is not a primary feature of the aluminum phosphate dispersion. In fact, the addition of colloidal silica and/or colloidal titania is disclosed essentially as an optional ingredient in the overall aluminum phosphate dispersion (see column 4, lines 24-31) to enhance the ability of the dispersion to resist soil deposition or more accurately to enhance the soil retardant properties of the aluminum phosphate dispersion.

The product of the reference is disclosed as functioning as a soil retardant which appears to fill imperfections in fiber surfaces making such surfaces smooth. Further applications are disclosed for use on carpets also.

The basic composition is an aqueous colloidal dispersion of negatively charged particles comprised of the reaction product of a water soluble aluminum salt and a water soluble orthophosphate in an aqueous medium.

A series of treatments of the reaction product of these two reactants include filtering to form a filter cake, washing the filter cake and dispersing the filtered, washed reaction product in water by means of employing a water soluble phosphate or simply forming a dispersion of the filter cake in water provided enough residual phosphate remained in the filter cake after the washing step.

The production of the product does not necessarily include the inclusion of silica in any form. In fact, the only teaching of incorporating colloidal silica is found in Example 4. This Example, however, does not teach the control of the resultant particle size through adjustment of the reactants as set forth in claim 1.

This reference is therefore believed not to meet the requirements of 35 U.S.C. §§ 102 or 103 as applied to the claims in the outstanding Office Action.

Similarly, the rejection to claims 1-4 and 6 cited as being anticipated or alternatively obvious in view of Chapman et al, U.S. Patent No. 4,711,666. It is asserted in paragraph 9 of the Action at page 5 that in column 3, lines 8 et seq. and the claims that a combination of nanoparticulate silica having a  $\text{NaO}_2$  content of 0.45% and a pH of 10.7, with a commercially available mono-aluminum phosphate solution having a  $\text{P}_2\text{O}_5$  content of 33.7% and a pH of 1.

It is further asserted that features of the claimed invention would inherent in view of the teaching of the reference. Namely, the pH adjustment of the dispersion with mixing to 3.5 to 8.5 pH to agglomerate the silica particles.

In spite of the fact that there is no explicit disclosure for what is stated in the Action or the Chapman et al reference, i.e., pH adjustment to achieve agglomeration, it is submitted that the rejections citing this reference are deficient in many regards as the fact that compositional make up of the oxidation prevention coating of Chapman is designed to provide an oxidation coating for graphite which can withstand temperatures if up to 1000°C. The composition of this reference is disclosed as a bender/suspension liquid phase comprising from 40 to 55 wt. % of the total paintable mixture.

Colloidal silica and mono-aluminum phosphate are included in a portion of the coating as well as ethyl alcohol.

The coating as a bender/suspension may also include non-conductive material which can be achieved by mixing finely divided boric acid and silicon carbide.

There is no teaching or suggestion what so ever of achieving the advancement to the act as Applicant has discovered and is now recited in the claims. The Chapman et al reference does

not have any indication of controlling particle size by adjusting quantitatively or qualitatively the components set forth in method claim 1. While it might be argued that certain steps of Chapman are somewhat similar to these of the instantly claimed method, the reference simply does not satisfy the requirements of Sections 102 or 103 as essential elements Applicant's claimed method are simply not disclosed or even contemplated. There is no mention of controlling the particle size of the resultant agglomerate by controlling factors of the reactants are recited in claim 1.

Moore et al, U.S. Patent No. 3,956,171 is concerned with providing stable silica sols of positively charged silica. The stability of the reaction mixture is achieved by introducing a stabilizer such as a carbonate bicarbonate or phosphate salt or any mixture thereof.

The Moore et al reference is concerned with avoiding the multi-step processes known prior to the filing of the Moore application to provide less time consuming and cumbersome methods of achieving a stable sol.

This reference in no way discloses nor contemplates the ability to control agglomerate particle size by adjusting the reactants of the claimed method as disclosed hereinabove.

There simply is not disclosure nor contemplation of this feature. ,

Throughout the Action, it is asserted that several features of the instantly claimed method are not disclosed in the references. It is thereafter stated that the individual reference cited against the subject application inherently possesses the feature(s) of Applicant's invention.

The method as now claimed specifically recites that agglomerate particle size can be controlled by adjusting several features such as primary particle size, silica concentration and aluminum phosphate agglomerating agent dosage. These specific features provide a result which

is unique to the subject application and is not disclosed much less contemplated in the references alone or in combination.

Claim 7 is objected to as being indefinite as it is stated that it is unclear how the positive recitation of applying an oxide coating to the agglomerate as the agglomerating agent, aluminum phosphate, is stated to have formed at least some hydrous oxide coating.

Whether or not some oxide coating is formed by way of the aluminum phosphate being present in the formation of the agglomerate, it is stated to not render claim 7 indefinite.

Assuming arguendo some hydrous coating is formed by inclusion of the aluminum phosphate, there is no reason that the particles cannot be exposed to further treatment of alumina, ceria or titania to further impart such a coating.

A terminal disclaimer is provided herewith in view of Applicant's co-pending Application No. 10/880,910.

Also attached is an Associate Power of Attorney signed by Michael B. Martin, the corporate Assignee giving Associate Power to the undersigned.

Date: 12/13/05

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Respectfully Submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this paper is being deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Mail Stop: FEE AMENDMENT

Date: 12/13/05

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